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Source: *The American Journal of Nursing*, Vol. 43, No. 11 (Nov., 1943), pp. 1002-1006
Published by: Lippincott Williams & Wilkins
Stable URL: http://www.jstor.org/stable/3456478
Accessed: 16-12-2015 01:59 UTC

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Good Nutrition Under Rationing

By Margery Vaughn
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To maintain good nutrition under rationing, we must first know what constitutes good nutrition, what are the special caloric, protein, vitamin, and mineral needs of children and adults.

To answer that, the Food and Nutrition Board of the National Research Council set up a table (Table 1) of specific nutrients as a guide for planning adequate nutrition for the civilian population of the United States. Quantities given were planned to provide not merely the minimum amounts needed to protect against actual deficiency diseases but a fair margin above this to ensure good nutrition and protection of all body tissues.

A table like this one is too technical for the homemaker to use daily, in checking family food needs. Without a guide, which she could easily use, scientific knowledge would not get far enough from the test tube to reach the family table. Recognizing this fact, the government has translated the table of food allowances into a practical list which everyone can understand. This list of government food rules was first called the nutrition yardstick and now, in line with wartime demands, it is called the National Wartime Nutrition Guide.

National Wartime Nutrition Guide

For health, eat some food from each group every day.

Group 1.—Green and yellow vegetables (some raw—some cooked, frozen, or canned)
Group 2.—Oranges, tomatoes, grapefruit (or raw cabbage or salad greens)
Group 3.—Potatoes and other vegetables and fruits (raw, dried, cooked, frozen, or canned)
Group 4.—Milk and milk products (fluid, evaporated, dried milk, or cheese)
Group 5.—Meat, poultry, fish or eggs (or dried beans, peas, nuts, or peanut butter)
Group 6.—Bread, flour, and cereals (natural whole-grain, or enriched, or restored)
Group 7.—Butter and fortified margarine (with added Vitamin A)

The Bureau of Human Nutrition and Home Economics says of the use of the "Basic-7" food groups:

It is convenient in choosing meals or in planning diets to combine foods into groups. While the kinds of foods within each group are not identical as sources of the various nutrients, they are more like each other than like the items in other groups.

Group 1. Green and yellow vegetables.—The vegetables in this group have been so classified chiefly because of their vitamin A value. However, there are wide differences within the group. For example, the dark green leaves may contain 10 to 30 times as much vitamin A as some others that are green or yellow colored, but not leafy. Some of the vegetables in this group, especially the dark green leaves, are rich sources of ascorbic acid and iron and good sources of riboflavin. If carefully prepared, many of them supply worth-while amounts of B vitamins (thiamin, niacin, and others). Several, although not all, of the vegetables in this group are valuable sources of calcium.

Group 2. Oranges, grapefruit, tomatoes, raw cabbage, or salad greens.—The best year-round sources of ascorbic acid (vitamin C) are the citrus products and tomatoes. Usually one of these is available fresh or canned at a fairly low price at all times. When in season, several other foods could be used instead of these. Fresh raw cabbage, raw salad greens, fresh strawberries, cantaloupe, pineapple, and some other seasonal fruits and vegetables contain considerable ascorbic acid. In addition to ascorbic acid several of these foods are good sources of other vitamins and all supply some mineral elements. Tomatoes, salad greens, green cabbage, and cantaloupe, for example, contribute vitamin A; the salad greens and tomatoes are fair sources of thiamin and the other members of the vitamin B complex.

Group 3. Potatoes and other vegetables and fruits.—This group contains a long list of fruits and vegetables not included with the green and yellow vegetables nor with the citrus fruit and tomato group. In this group potatoes are very important because they make many contributions to the diet and are usually inexpensive. They are a better source of food energy and protein than most vegetables or fruits and in the quantities in which they are used they furnish important amounts of iron, the B vitamins, and ascorbic acid.

If generous servings of the other fruits and vegetables in this group were eaten frequently, they could make significant contributions to one or another of the nutrients. For example, fresh lima beans could furnish appreciable quantities of the B vitamins; prunes, of vitamin A; apricots, of vitamin A and iron; berries of ascorbic acid. But for the most part these products are desirable for their flavor and texture, and for their all-round mineral and vitamin values rather than to supply any very important quantity of any one nutrient.

Group 4. Milk and milk products.—Milk in its various forms is a good source of most nutrients and an outstanding source of calcium, furnishing about three-fourths of the total in average American diets. As ordinarily used by American families, milk furnishes about half the riboflavin, and rather large amounts of protein of first quality. The evaporated and dried forms of milk made from

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either whole or skim milk have nutritive values similar to the original milk, but in more concentrated forms. In making cheese there is a loss of a portion of the water-soluble nutrients.

The quantities of the various products that are approximately equivalent to a quart of milk with respect to protein, calcium, and vitamin A are:

17 oz. (by weight) evaporated milk (1 tall can contains 14½ oz.)
5 oz. American cheese
3 ½ oz. dried skim milk plus 1½ oz. butter or fortified margarine
4 ½ oz. dried whole milk

Group 5. Meat, poultry, fish or eggs or dried beans, peas, nuts, peanut butter.—All the foods in this group are rich sources of protein and most of them are notable sources of one or more members of the vitamin B complex (thiamin, riboflavin, and niacin) and iron. . . . . Meat, eggs, dried legumes, and nuts are good sources of iron. Meat, poultry, fish, the dried legumes, and nuts supply generous quantities of niacin. Lean pork, dried legumes, and nuts are good sources of thiamin. Riboflavin is found in important amounts in all lean meats, eggs, dried legumes, and nuts.

Group 6. Bread, flour, and cereals.—This group includes whole-grain or enriched bread and flour and whole-grain or restored cereals. All these foods are very good sources of food energy and supply a large proportion of the protein in the ordinary diet, *29 per cent in 1942*. For most efficient use in the body, cereal proteins should be supplemented by those of milk, meat, poultry, eggs, fish, soy beans, or peanuts. In addition to contributing food energy and . . . . protein, foods in this group are good sources of thiamin, niacin, and iron.

Group 7. Butter and fortified margarine.—Both these foods, like all fats, are outstanding as sources of food energy and, like other fats, give staying qualities to the meal. These two particular fats furnish vitamin A in addition to calories.

It is very important for health's sake that every person learn the Basic-7 daily nutritional needs and follow them. Nutrition needs are the same in war as in peace. It is only our methods of filling them that vary with the dislocations war brings. Therefore, to maintain good nutrition under rationing, we need to know the alternates that may be used to supply

TABLE 1
RECOMMENDED DIETARY ALLOWANCES *
Food and Nutrition Board, National Research Council

	Calories	Protein grams	Calcium grams	Iron mg.	Vitamin A*** I.U.	Thiamin (B_1) mg.**	Ribo-flavin mg.	Niacin (Nicotinic acid) mg.	Ascorbic acid mg.**	Vitamin D I.U.
Man (70 kg.)										
Sedentary	2,500	...	...	..	....	1.5	2.2	15	...	...
Moderately active	3,000	70	0.8	12	5,000	1.8	2.7	18	75	†††
Very active	4,500	...	...	..	....	2.3	3.3	23	...	...
Woman (56 kg.)										
Sedentary	2,100	...	...	..	....	1.2	1.8	12	...	...
Moderately active	2,500	60	0.8	12	5,000	1.5	2.2	15	70	†††
Very active	3,000	...	...	..	....	1.8	2.7	18	...	...
Pregnancy (latter half)	2,500	85	1.5	15	6,000	1.8	2.5	18	100	400 to 800
Lactation	3,000	100	2.0	15	8,000	2.3	3.0	23	150	400 to 800
Children up to 12 years:										
Under 1 year †	100/kg.	3 to 4/kg.	1.0	6	1,500	0.4	0.6	4	30	400 to 800
1–3 years ††	1,200	40	1.0	7	2,000	0.6	0.9	6	35	†††
4–6 years	1,600	50	1.0	8	2,500	0.8	1.2	8	50	...
7–9 years	2,000	60	1.0	10	3,500	1.0	1.5	10	60	...
10–12 years	2,500	70	1.2	12	4,500	1.2	1.8	12	75	...
Children over 12 years:										
Girls, 13–15 years	2,800	80	1.3	15	5,000	1.4	2.0	14	80	†††
16–20 years	2,400	75	1.0	15	5,000	1.2	1.8	12	80	...
Boys, 13–15 years	3,200	⎫ 85	1.4	15	5,000	1.6	2.4	16	90	†††
16–20 years	3,800	⎭ 100	1.4	15	6,000	2.0	3.0	20	100	...

* Tentative goal toward which to aim in planning practical dietaries; can be met by a good diet of natural foods. Such a diet will also provide other minerals and vitamins, the requirements for which are less well known.

** 1 mg. thiamin equals 333 I.U.; 1 mg. ascorbic acid equals 20 I.U.

*** Requirements may be less if provided as vitamin A; greater if provided chiefly as the provitamin carotene.

† Needs of infants increase from month to month. The amounts given are for approximately 6–8 months. The amounts of protein and calcium needed are less if derived from human milk.

†† Allowances are based on needs for the middle year in each group (as 2, 5, 8, etc.) and for moderate activity.

††† Vitamin D is undoubtedly necessary for older children and adults. When not available from sunshine, it should be provided probably up to the minimum amounts recommended for infants.

Further Recommendations, adopted 1942. The requirement for *iodine* is small; probable about 0.002 to 0.004 milligram a day for each kilogram of body weight. This amounts to about 0.15 to 0.30 milligram daily for the adult. This need is easily met by the regular use of iodized salt; its use is especially important in adolescence and pregnancy. The requirement for *copper* for adults is in the neighborhood of 1.0 to 2.0 milligrams a day. Infants and children require approximately 0.05 per kilogram of body weight. The requirement for copper is approximately one-tenth of that for iron. The requirement for *vitamin K* is usually satisfied by any good diet. Special consideration needs to be given to newborn infants. Physicians commonly give vitamin K either to the mother before delivery or to the infant immediately after birth.

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the same nutritive values as familiar foods that may be in short supply. For such local shortages, the following list of food groups will enable the homemaker to choose from the foods available in her market the ones that supply the same nutritive values as the more familiar ones.

IN WARTIME

Choose from each group of the Basic-7, if possible, but adapt to wartime conditions

If scarce in	Use more from
Group 2	Group 1, 3
Group 4	Group 1, 5, 6
Group 5 (meats)	Group 4, 5 (beans) (eggs)
Group 7	Group 1, 4

Many people have been disturbed because a much liked food of the Basic-7 group, meat, is on the ration list. Those who had been accustomed to eating large quantities of meat were sure that with smaller amounts their health would suffer. The daily requirement of protein is approximately 70 grams for an average adult. To supply an adequate amount of efficient proteins, approximately one-third of this daily protein supply should be from animal sources, meat, poultry, fish, eggs, milk, or cheese.

To ascertain whether or not you are receiving the needed amount of animal protein in your three meals a day, give them a quick check, using the following tabulation which lists several protein foods of animal origin, in terms commonly used for household measurements.

Item	Grams Protein
Eggs (1)	7
Milk (1 cup—8 ounces)	8
Cheese (American 1 ounce)	8
Poultry (1 ounce)	8
Fish (non-fatty) (1 ounce)	6
Meat (1 ounce)	7

Other points to remember about protein are that eggs and milk used in cooking add to the protein content of the day's food requirements, and that poultry and fish are also unrationed sources.

Proteins containing the amino acids which have been found indispensable to the body are called complete proteins to distinguish them from proteins which do not contain all of the essential amino acids and which are called incomplete proteins. Even though a protein food may contain all the essential amino acids, some of them may be present in such small quantities that they do not contribute sufficient amounts to be counted in building and repairing human tissue. Therefore, the term "efficient protein" is used to designate proteins which have the essential amino acids in good proportions. Milk, eggs, and liver have the highest efficiency rating of any of the proteins.

EXAMPLES OF COMPLETE AND INCOMPLETE PROTEINS

Complete Proteins	Incomplete Proteins
Milk	Dried peas, beans, lentils
Eggs	Nuts
Cheese	Cereals
Meat	Potatoes
Fish	Bread

The legumes, dried peas, beans, and lentils are classified as protein foods, but when using them as alternates for meat we must remember that while they contain proteins, they do not contain all the proteins of meat and cannot be used entirely to take its place. However, the minerals, calcium, phosphorus, and copper are present in important amounts in the legumes.

Soy beans are among the best of the plant or vegetable proteins. They do not quite equal the proteins of milk, eggs, and meat, but they can be used very well during the war to supply part of our protein requirements. We can also obtain proteins from cereals and vegetables.

Since milk is a complete protein, it is an excellent supplement for the incomplete protein of vegetables. It should be remembered that the body needs approximately 20 to 30 grams of animal protein a day. A standard 8-ounce measuring cup of whole milk is valued as 8 grams of animal protein. Therefore, three cups of milk would give the approximate amount of animal protein needed per day. Protein from soy beans, dried peas or beans or other vegetable sources could be used for the remaining two-thirds of the total of 60–70 grams of protein needed per day.

In buying foods on a "point" as well as a "money" basis, we should keep in mind that carbohydrates furnish the cheapest form of energy. Also, that an overabundance of protein, instead of being stored up in the body, is used for energy, so that there is no advantage nutritionally in eating more of the animal proteins than are needed.

Authorities agree that physiological needs for protein are no greater for a person doing heavy work than for light work, but that the person doing heavy work needs more foods of high-caloric value to provide energy.

The menu on page 1005 gives an idea of how much protein there is in three meals which at first glance do not seem to have a high protein content.

Fat in its concentrated form, such as butter, margarine, lard, the hydrogenated fats, peanut,

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SAMPLE MENU

Grams Vegetable Protein		Grams Animal Protein
	Breakfast	
	Orange or Tomato Juice	
4.6	1 cup cooked oatmeal	
	½ cup milk	4
	1 egg	7
2.8	1 slice enriched white bread	
	Lunch	
	4 tablespoons cottage cheese (as salad)	14
2.8	1 slice enriched wheat bread	
4.6	1 piece gingerbread (hot water—1 egg)	
1.	Prunes (cooked 4 to 5)	
	1 glass milk	8
	Dinner	
	1 pork chop (loin)	20.4
4.8	1 cup cooked string beans	
1.0	1 large carrot	
3.0	1 boiled potato	
2.8	1 slice enriched white bread	
	Lemon sherbert, made with milk	4.6
	(Approximate amount in an ice-cream cone)	
27.4		58.0
	(Other foods as needed to complete the meal)	

soy bean, cotton seed, and corn oil are all rationed. These concentrated fats are used chiefly in the preparation of foods. Fats are used to make biscuits, pie crust, cake, and other baked foods tender and moist and to dress or season salads and vegetables. But nutritionally speaking, we also obtain fats to count toward the day's total from many of the foods we eat. Meat, poultry, fish, cheese, milk, eggs, peanut butter, and avocado pears contain varying amounts of fat.

Mayonnaise, peanut butter, avocados, poultry, eggs, cream, and milk, olive oil, nuts, and fatty fish are *unrationed* sources from which you may obtain fat in your diet.

Fats are an essential constituent of every body cell. They are not digested as quickly as carbohydrates and proteins. It is the fat in meat and other foods that "stays" in the stomach for a longer period and gives us a feeling of being well fed.

Various suggestions have been made for the division of the ration points between fats and proteins. Some recommendations were that from one-third to one-fourth of the weekly points should be alloted to fats. But this amount depends upon what the family has been accustomed to using, rather than upon arbitrary proportion.

The third factor which has caused a dislocation in family menu planning is the rationing of processed fruits and vegetables. Many of us were accustomed to using large amounts of these foods in their canned or dried form. Under rationing, the supply allotted is not large enough to provide an adequate diet. The answer is to use fresh foods; to have a garden and to can, dry, or otherwise store as much as possible against the need of winter.

The British, facing the fact that for the duration they would not be able to import citrus fruits to provide ascorbic acid, carefully planned their crops to supply as much ascorbic acid or vitamin C as possible. They also needed foods of high-caloric value. By planting large acreages in potatoes and also asking the people to plant and eat raw, as many green vegetables as possible, they made sure that there would be no extreme cases of scurvy in England from lack of vitamin C.

Actually, after living under rationing for a time, we find it is not nearly the problem we expected. "How to get the most for your points" has become a game as absorbing as crossword puzzles, information teasers, and other games of mental skill. Any homemaker who has analyzed the food supplies in the market has found that, in balancing her meals, it is familiar flavors and accustomed forms and amounts that she has difficulty in obtaining, rather than foods that provide good nutrition.

Our victory gardens will make available greater variety of foods and will also introduce many people to the flavor of garden-fresh vegetables. As Dr. Hazel K. Stiebling of the Bureau of Human Nutrition and Home Eco-

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nomics says, "By eating liberal amounts of fresh garden products in prime condition, over as long a season as possible, people can build reserves of health for the months ahead. Specifically, they can store up large amounts of vitamin A in their own bodies by *eating* in their season more than the usual amounts of greens and vegetables instead of storing them in the pantry or the cellar. Sharing fresh products with friends and neighbors can spread this advantage to others who may not be fortunate enough to have gardens of their own."

To live happily under rationing, we must be on the alert nutritionally every day. The utilization of our food supply and all of its nutritive values, from production point to table, has become a war job for all of us.

Supplementary Reading

The Basic Seven Nutrition Chart, *For Health . . . . eat some food from each group . . . . every day!* U. S. Department of Agriculture, Food Distribution Administration, Nutrition and Food Conservation Branch, Washington, D. C., 1943.

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Teaching Urological Nursing

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The decreased time in which to accomplish teaching, the constant shifting of nurses, the employment of older and part-time nurses who have been away from nursing for a time, and the fact that student nurses are required to carry more responsibility for an increased number of patients have made it difficult to teach present technics and give sufficient follow-up work to ensure good nursing. It is not a problem to know what to teach, but it is a problem to know how to present the procedures in an impressive, concise manner that will give a full picture of the technics.

To meet this condition in the urology department of Multnomah County Hospital an illustrated nursing procedure book has been arranged. Pictures, miniature sheets, and dressings applied to pictured figures are used to give a complete picture of urological nursing technics which it is easy for the student, graduate, or intern to check. One such procedure is given here.

Routine Care in Perineal Prostatectomy

Perineal prostatectomy is the removal of the prostatic lobes through a perineal incision. The estimated perineal breakdown was considered to be a 50 per cent average. In using the following procedure and checking in twenty-five cases we have had but two.

Equipment necessary:

Dressing cart or tray with
2 pair sterile forceps, sterile cotton balls, 2 sterile lap pads, 1 sterile surgery towel, 1 unsterile surgery towel, merthiolate spray, alcohol, drape sheet, diaper sheet, 4 safety pins, and newspaper.

Procedure: The cart is set up and taken to the bedside.

A. Draping the patient

1. Place drape sheet over patient.
2. Grasp head of bedding and bottom of drape sheet.
3. Have patient hold top of drape sheet.
4. Fanfold bedding down to foot, drawing drape sheet down at same time.
5. Turn drape sheet with one corner over chest and opposite corner down over legs.
6. Place diagonal corners well under thighs.
7. Place unsterile towel over genitalia.
8. Fold corner of sheet on chest under, leaving perineal area well exposed and genitalia covered with towel.
9. Lift scrotum with towel, have patient hold it up out of the way.

(Figure 1 shows completed drape with perineal area left free for routine care.)

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